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Your Customers are Demanding

Don’t just compete... thrive!

To compete and thrive in the pallet business you must respond to customer demands. This includes ever-increasing product mix and shorter production runs.

Expensive and dedicated automation is good for long production runs. Change over times can kill production rates.

With robotics automation, you can thrive by producing higher-margin, higher-quality, custom pallets.

Use robots for the difficult jobs.

Building pallets is difficult and dangerous work.

Even minor injuries like splinters, minor cuts and sprains have a significant impact on production and quality.

People are good at solving problems, not repetitive tasks.

Robots are made for mundane repetitive tasks.
High Mix Production

Is change-over killing your production?

Build stringer and block pallets on the same system.

Supports custom pallet sizes from 20” up to 120” (0.5M up to 3M).

Ideal for shorter production runs from 25 – 1,500 units.
Automate your High Mix Production

Fast change-over, typically under 5 minutes.

Designed for custom and odd sized pallets.

Stringer, block and custom pallets.

Robot with beam nailing for assembly of pre-made legs and decks without jigs up to 1,000 pallets per shift.
How the Simple Nailer works

Robotic Pallet Assembly

Operator loads stingers and boards

Robot positions and nails boards, then stacks completed pallets
Robotic Pallet Assembly

The operator loads boards on one side.

The robot works on the other side.
How the Simple Nailer works

Robotic Pallet Assembly

The operator loads boards on one side.

Adjustable jigs are used for stringer pallets.

Simple jigs (shown here) are used for block pallets.
How the Simple Nailer works

Robotic Pallet Assembly

The operator loads boards on one side

After all boards are loaded, the operator presses a button and the positioner rotates presenting boards to the robot.
How the Simple Nailer works

Robotic Pallet Assembly

The robot nails boards on the other side

The robot nails boards precisely.

As shown to the right, the stringer boards for block pallets are also nailed.

The system can even cleat nails.
How the Simple Nailer works

Robotic Pallet Assembly

The robot stacks completed pallet

The robot can stack pallets up to 8 feet high
Robotic Pallet Assembly

Evenly nested pallets

Typical rates for block pallets as shown here is 70 sec per pallet (or 50 per hour).

Rates for stinger pallets vary. Typical rates for 40” x 48” pallets are ~60 sec per pallet (or 60 per hour).
Robots have been used in manufacturing for over 30 years. They are fast, strong and precise!

They are very precise: the Motoman MH180 robot is repeatable to ±0.008” (or ±0.02 mm)

They are very strong: the Motoman MH180 robot can lift nearly 400 lbs (or 180 kg) – including nail guns and pallet gripper.

Motoman robots are designed to run for several years, with minimal maintenance*

*Contact Yaskawa Motoman or see product documentation for details.
Robots are Consistent

Consistent Production and Quality

With labor production rates vary over time.

As workers become fatigued, production rates drop.

Rework due to poor nailing and board placement also slows production.

Robots are precise and consistent throughout the day.
Robots are Consistent

Consistent Production and Quality

Quality can also suffer late in the day.

Fatigue and minor injuries impact quality.
If rework is not properly completed, you could be shipping marginal or lower quality product.

Have confidence that the last pallet made Friday is the same as the pallets made Monday morning.
Building Pallets is Hard Demanding Work

Fatigue can lead to more injuries.

As workers become fatigued late in the day, minor injuries can occur more frequently.

Workers are often exhausted late in the day, which can lead to more frequent injuries.

Let robots do the redundant jobs. Move employees into higher value jobs.
Rising Costs of an Unsafe Work Environment

Rising healthcare and workers’ compensation insurance costs are impacting the bottom line.

Robots can lift heavier loads taking the strain off employees and preventing injuries.

Our robot systems are delivered with all necessary safety guarding to ensure a safe working environment.
## Benefits of Robotic Automation

### Impact to Your Business

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<tr>
<th>Benefits</th>
<th>Financial Return</th>
<th>People</th>
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<tr>
<td>Highly flexible production that allows you to expand into custom high-margin products.</td>
<td>Yes</td>
<td>Not directly*</td>
</tr>
<tr>
<td>Safer working environment fewer injuries and lower workers comp rates</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Increase efficiency and capacity with consistent and predictable production.</td>
<td>Yes</td>
<td>Not directly*</td>
</tr>
<tr>
<td>Reduces the need for jigs, which are expensive and time consuming to maintain.</td>
<td>Yes</td>
<td>Not directly*</td>
</tr>
<tr>
<td>Consistently high quality results in higher margins.</td>
<td>Yes</td>
<td>Not directly*</td>
</tr>
<tr>
<td>Realize growth with robotics while maintaining headcount.</td>
<td>Yes</td>
<td>Not directly*</td>
</tr>
<tr>
<td>Transfer people to higher value and more interesting jobs.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*While these items may not directly benefit how people go about their jobs, they do make the company stronger, which provides more security.*
Impact to Your Business

With consistent productivity and higher margin products, the payback will be sooner than you think.

Our robots are designed to run production for years, long after the initial investments is returned. Resulting in profit for several years in the future.

If your production needs change the robot can be re-deployed and continue to return a profit.
Global Footprint, Local Support

Who
Yaskawa Motoman?

With over 300,000 Motoman robots installed around the world, Yaskawa is the global leader.

motoman.com
Yaskawa’s Global Footprint

Yaskawa facilities in over 25 countries with over 270,000 robots installed.

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Yaskawa’s Local Footprint

Additional Yaskawa Motoman facilities in the Americas

Canada
Mississauga
Montreal

Mexico
Aguascalientes
Monterrey

Brazil
Sao Paulo

26 field service personnel supporting the US.

Nearly 100 people dedicated to customer service throughout the Americas (US, Canada, Mexico & Brazil)
Beyond Pallet Assembly

We offer a range of products and options for pallet assembly and repair.

Including a fully automated pallet assembly, patented bulk nail feeders, pallet dismantling, material handling, sorting, stamping and marking.

Call for details.

Fully automated line to build pallets with pre-made decks up to 1,600 per shift
contact information
for more information, please contact us at

Roger Christian
937-847-3262
roger.christian@motoman.com
pallets.motoman.com

thank you